

Abstract Submitted
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Time Resolved Quantum Field Theory TYLER KHARAZI, Brigham Young Univ - Provo — Recent work by Glasgow, Smith, Ware, et al gave a non-perturbative approach in time-resolved quantum field theory, and showed their methods in the Hamiltonian of Quantum Electrodynamics. Their work, however, only considered a subspace of QED where only one electron and one photon were considered, causing the Coulomb potential to become trivial. In this presentation we will extend the results of the previous authors to consider a field theory including electrons, positrons, and photons, causing the Coulomb term to play a role in the dynamics of the system. We show that analysis of the Coulomb term is non-trivial and forces us to consider a new method in projecting down onto 1+1D subspace of the full field theory.

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